Exploring Patent Pooling As a Tool for National Development

Final Technical Report

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Abstract

As a response to the global competition initiated by the *Call for Proposal* by the International Development Research Center on the theme "ACCESSING PATENTED KNOWLEDGE FOR INNOVATION", this Paper aims at exploring patent pools, a locally unfamiliar yet internationally-recognized and century-old approach to technology commercialization, as a tool for national development in the Philippines.

The Project did legal scanning of relevant laws and implementing programs of involved government institutions in coming up with baseline information relating to innovation, conducted national surveys on the use of patent pools by selected academic and R&D institutions and systematically analyzed its results. All these were preceded by SWs in collaboration with the relevant government institutions and some universities with objective of introducing patent pools and orienting the subject respondents into having a working knowledge and understanding as they respond to the subsequent formal survey.

This Paper confirms the observation that with the country's low status in the innovation ladder, the academic and R&D community are quite expectedly unaware of and have not used patent pools as a form of technology transfer. Neither is it ready to do so at this time. Thus, only time can tell if and when patent pools can be used as a tool for economic development of the country.

This pioneering study gave a valuable insight to the research community of the possibility of expanding R&D objectives of participating in patent pools as an alternative to technology commercialization.

Keywords: intellectual property, innovation, patent, patent pools, R&D, technology commercialization, survey

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I. Overview

For over a century since the first treaty on intellectual property[1] has been passed by the pioneering member states, the principle of territorial protection remains sacrosanct. In some administrative features of IP treaties, the actions of IP offices pursuant to their national laws are being recognized and adopted adding to the advantages of using the patent system. A quick example is accepting a filing date of an application for patent or trademark in one member state and claiming this as a priority date[2] in a subsequent application in another member state under certain circumstances.

The efforts of this community of nations towards harmonizing laws and procedure have been largely successful only with the latter. Yet, the patenting activity of most member states in the developing stage has remained significantly low. The Philippines is one such typical country with low patenting activity. Similarly, its innovation activity is also wanting to a large extent.

In 2007, the *Call for Proposals* by the Innovation, Technology and Society (ITS) program of IDRC – Canada, on Accessing Patented Knowledge for Innovation came as a welcome opportunity for developing countries like the Philippines to do research and investigate new approaches to help address this situation.

Our team responded to the global competition initiated by the said *Call* with our submission of a project proposal entitled "Exploring Patent Pooling as a Tool for National Development"[3]. Its eventual selection among other deserving candidates by the IDRC gave our team and the Arellano Law Foundation the singular honor to do a pioneering research on a still locally unfamiliar yet internationally-known and century-old transaction, i. e, patent pools.

The project that officially began in April 29, 2008 was the responsibility of a composite team of three lawyers, all experts in the field of IP and involved in policy-making, IP practice, and the academe, led by Professor Josephine R. Santiago[4] with team members Antonio Aldrin R. Mendoza[5] and Ma. Gladys C. Vilchez[6].

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[1] Paris Convention for the Protection of Industrial Property of 1883.
[2] Article 4, *ibid.*
[3] Please see our Research Objectives (Annex"), Methodology (Annex "B"), and Dissemination (Annex "C")
[4] Master of Laws in Intellectual Property; Faculty of Law, Arellano University School of Law; Partner, S. A. Santiago & Santiago Law Offices; former Deputy Director General of the Intellectual Property Office; former Director, Technology Application and Promotion Institute of the Department of Science and Technology (DOST-TAPI)

II. Objectives

Scope and General Objectives

To make a study of the innovation sector in the Philippines, particularly of the key players, their relationships and interaction mechanisms, and the existing support infrastructures that account for the low level of innovation, with the end of proposing models for multi-stakeholder systems, including patent pools, aimed at raising the level of innovation in the country.

Specific Objectives

(1) Provide a baseline study of:

a. the current S&T legislations, related laws and policies that impact on R&D activities that relate to potential patents and utilization of R&D outputs/knowledge in SME, RDI and HEI in the Philippines, including the roles of key national agencies which include the Department of Science and Technology (DOST), Commission on Higher Education (CHED), Intellectual Property Office of the Philippines (IPO) , and Department of Trade and Industry (DTI);

b. public institutions that implement laws and policies relating to R&D including their present programs and activities, and private stakeholders that support R&D and utilization of technologies; and

c. institutions and/or industries using patent pools or similar arrangements.

(2) Analyze and evaluate issues, problems and challenges posed by the legal, socio-cultural, economic and other factors, which contribute to the low level of innovation.

(3) Identify specific sectors/industries where patent pools or similar arrangements are likely to succeed.

(4) Suggest models of multi-stakeholder support systems, such as the patent pool structure, aimed at increasing innovation.

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[6] Partner, Hechanova Bugay and Vilchez Law Offices; former Chief of Division of the Bureau of Legal Affairs, Intellectual Property Office

(5) Prepare recommendations on policy guidelines, legal and other infrastructures for the establishment and effective implementation of the suggested models of multi-stakeholder support systems.

III. Methodology

Objective (1) on the baseline studies was achieved through legal scanning of the applicable and relevant provisions of law and procedures and the study of the applicable programs and activities of the various government offices, private and public universities and RDIs. Information from the internet, brochures, annual reports were extensively used while personal or telephone interviews were held whenever necessary.

Objectives (2) to (5) were achieved through the conduct of the following activities:

A. The formal survey, with selected SME, RDI and HEI as respondents was held in January 2009 and terminated in mid-March 2009. The two-part survey questionnaires has been the result of the evolution of its design and development which began as early as June 2008, pilot tested, reviewed and polished, again polished after being subjected to comment and feedback at the SWs. Questions were crafted to determine the nature and extent of R&D and patenting activities in SME, RDI and HEI in the country; identify and evaluate the current infrastructure and support mechanisms that assist in encouraging and stimulating these activities, as well as the various factors that serve as obstacles and the difficulties encountered at various stages. Questions were also fielded for the purpose of determining the effect of existing patents, whether foreign or local, to the patenting activities of the respondents. The survey likewise included questions on suggested solutions to overcome the identified problems and difficulties.

B. A preliminary pilot survey preceded the SWs and the formal survey. The pilot questions were finally released on the third month of the Project in July 2008 to fifty (50) pre-identified respondents to serve as a testing ground or a precursor of the formal survey to determine, among others, the completeness of our scope of coverage, the appropriateness and comprehensibility of our questions. The responses or lack of it gave us insights for further polishing and refining the questions for the formal survey questionnaires.

Objectives (3) and (4) were achieved through the conduct of two SWs and FGD on patent pools with the SME, RDI and HEI as target participants. The

workshops introduced the concept of patent pools, identified the industries where they exist and the impact of these pools on patent activities in such industries. Through this activity, the participants were oriented into having a working knowledge and understanding of the concept in preparation for the subsequent formal survey.

Prior to these SWs and FGD, the RT, led by its project leader, engaged in collaborative meetings and activities with key officials of the IP Philippines (Director General Adrian S. Cristobal and Director Carmen G. Peralta) for joint activities and funding as described below. Successful were the meetings with the Department of Science and Technology (Secretary Estrella Alabastro, Undersecretary for Policy Dr. Fortunato dela Pena, Undersecretary for Research and Development Dr. Graciano Yumul, Assistant Secretary Carol Yorobe, Officer-in-Charge of Regional Operations Services and the heads of various research councils) for the purpose of advising them of the existence of the Project and securing support for its activities. The much need support came in the form of fast-track cooperation of the heads of the various councils and regional offices by providing the RT with a list of leading public and private educational and research institutions within their sphere of jurisdiction. These entities would later serve as participants to the SWs and as respondents to the survey questionnaires.

Objective (5) was achieved upon evaluation and analysis of the results of the previous activities for the purpose of crafting guidelines and strategies for the establishment of multi-stakeholder systems such as patent pooling, with the view maximizing access and use of patents, strengthening linkages and participation among stakeholders, and the commercialization and exploitation of the results of patenting, to promote the development goals of the Philippines. The specific roles of the various stakeholders were likewise determined.

Individual and group study and research sessions have been very useful tools throughout the Project.

II. Project Activities

April 28, 2008 *Start of Project*

28 April 2008 marked the official commencement of the research project carried out through the IDRC grant. The Project, which focuses on the study of the potential of patent pool as an unexplored solution to the low level innovation and patenting in the Philippines, has achieved several milestones through

effective collaboration and endorsements with relevant strategic partner institutions.

As can be gleaned from the rest of the report below, it can be said that it was critically synergistic that the Project Leader was once connected with the IPO and the Department of Science and Technology (including its five councils, RDI's, and service institutes, and 16 Regional Offices) thus making networking with key officials and staff and sourcing of documents and materials, securing important endorsements for most of the project activities, and collaboration smoother. Of equal significance and usefulness is that the other two RT members are/were involved with IPO.

Project Launch

May 21-22, 2008 — *National Conference On Intellectual Property And Technology Commercialization (May 21-22, 2008, Renaissance Hotel, Makati City)*

Having been invited to attend this Conference co-organized by the IP Philippines[7] and the World Intellectual Property Organization (WIPO), and seeing that this could be an excellent venue to introduce the thrust of the Project vis-à-vis technology commercialization, the Project Leader lost no time in requesting for a brief exposure to make a 10-minute presentation on the second day. Although it was not officially part of the program, the request was approved by IP Philippines Director General Adrian Cristobal through the recommendation of Director Carmen G. Peralta[8] paving the way for the first public activity of the Project.

The conference was held on 21-22 May 2009 at Renaissance Hotel in Makati City, Philippines and was attended by more than 150 participants from the academe, research institutions and government offices, the very relevant sector of possible respondents of the research. The Project Leader gave a presentation (1) on the overview of patent pooling, (2) how it may provide an efficient mechanism to maximize resources of businesses, RDIs and HEIs, and (3) on the forthcoming survey regarding the patent pool as an innovation tool. The talk was well-responded to and was received with positive commentaries from the audience.

Branching Out

[7] In this report, the term Intellectual Property Office (IPO) is interchangeably referred to as IP Philippines and vice-versa.
[8] Documentation Information Technology Transfer Bureau of the IP Philippines

Aug 29, 2008	*Wrote DOST Undersecretary Fortunato dela Peña for DOST's database of HEIs and RDIs, and requested for some pertinent data from DOST's 2006 survey, i.e. list of HEIs - universities which have research and funding, with MS/PhD and R&D Personnel and most likely those with R&D Budget, matrix and other related documents*
Sept 18, 2008	*Wrote DOST PCASTRD to invite them to co-sponsor the upcoming SWs/FGD*
Oct 14, 2008	*Wrote DOST PCARRD, PCMMARD for a list of ten local companies which have track records in doing research and commercialization of their output*
Oct 16, 2008	*Wrote IPO for co-sponsorship proposal to dovetail with the plan of IP Philippines to hold seminar workshops on IP Policy Development*
Oct 22, 2008	*Wrote DOST Regional Operations Services' Assistant Secretary Carol M. Yorobe for Project's endorsement to the regional directors for grant of request for release of database of possible participants/ respondents*
Oct 28, 2008	*Wrote DOST-TAPI to invite them to co-sponsor the SWs and for a list of all inventors associations and active inventors who are involved in R&D from which database, the researchers will select participants for SWs*
Nov 10, 2008	*Obtained support from the executive director of DOST in terms of promise of attendance and participation of staff in the activities*

With a goal to maximize resources and extend the impact of the research, the RT had stretched its network to penetrate other institutions relevant to the study. The RT particularly sought the support of IPO, DOST and other specialized DOST Departments (e.g. PCASTRD). The proposal presented the idea of working together centering on common interest of promoting R&D advancement in the Philippines through technology commercialization of their outputs within the realm of the intellectual property system.

The RT engaged in collaborative meetings and activities with key officials of the Department of Science and Technology, namely Secretary Estrella F. Alabastro, Undersecretary for Policy Dr. Fortunato dela Pena, Undersecretary for R&D Dr. Graciano P. Yumul, Jr., Officer-in-Charge of Regional Operations Services Asst. Sec. Carol M. Yorobe, and the heads of various research councils. The said meetings were held for the purpose of explaining the project and the concept of patent pools and identifying the leading public and private educational research institutions that would serve as participants to the SWs where the Project will be involved and as respondents to the survey

questionnaires being prepared. More importantly, the meetings were meant for securing support for the Project in terms of endorsements and related collaborations. The aforementioned officials were very supportive of the Project by either signing necessary endorsements, instructing staff to do coordination work with the RT, authorizing attendance in the Project's activities, and the like.

Minor setbacks attributable to several factors were, however, met: The timing of the RT's requests for the list of prospective participants came as an obstacle considering that their requests were sent out on the last quarter of the year, the busiest part of the year for government offices. First, this is the period for Congressional Budget Hearings whereby key executive officials of government agencies and offices are almost inaccessible in view of their prioritizing preparation of their annual budget and are called upon anytime by the legislature to support or defend their request for approval of budget for the following year. Second, this period coincides with the preparations for the long Christmas holidays. Third, absence from office due to official trips and other priorities of some key officials also contributed to some deferment of actions.

Furthermore, DOST-TAPI was contacted to invite them to co-sponsor the SW or FDG for their database of all inventors associations and active inventors who are involved in R&D from which the researchers will select participants for the SW. While the said office cooperated with providing the requested list, the co-sponsorship was denied in view of their opinion that their program does not cover this kind of assistance. [9]

The RT pursued other potential partners. The series of collaborative meetings eventually gave way to DOST councils and IPO's affirmative response to the proposal of working with the RT in pursuing the actualization of the SWs and forum. The RT was also able to obtain pertinent data from DOST's 2006 survey, i.e. list of HEIs – particularly universities which have research and funding, with MS/PhD and R&D personnel and most likely those with R&D budget, matrix and other related documents. Regional Directors also sent lists of RDIs, HEIs and local companies which have track records in doing research and commercialization of their output.

Pilot Survey

May & June 2008	*Questionnaire design and development*
July 2008	*Pilot Survey - Questionnaire sampling*

[9] Prof. Santiago, former Director of TAPI, comments: DOST-TAPI implements Republic Act No. 7459, a law providing assistance and incentives to local inventors. During her time, she granted requests for co-funding SWs and conferences for inventors as part of their education and training.

Right after the May 21-22 conference, the RT immediately got down to brass tacks agreeing on the scope of the information that must be surveyed and designing the questionnaire. Unanimously concurring that the RT secures the services of a consultant to help design and provide advice on administration of the survey, sometime in June 2008, the RT invited an expert in statistics, among others, in the person of Director Ester B. Ogena, Ph.D.[10] as the Project Survey consultant. Dr. Ogena was instrumental in advising the RT to conduct, as they did conduct, a pilot test survey prior to the formal survey, in determining the sampling frames, in identifying respondents, in suggesting methods of data collection, in evaluating the responses based on raw data. She also personally attended the SWs and focus group discussions to assist the RT explain the procedures in the survey. After much deliberations and validation of alternative choices, the RT and Dr. Ogena agreed to do a survey of academic, R&D institutions or inventors' groups instead of private individuals to simplify approach and avoid duplicity of responses.

In the pilot run, survey questionnaires were fielded out to fifteen (15) respondent institutions namely: SMEs: 2 each per area (Luzon, Visayas, Mindanao, Metro Manila), RDIs (Government): 2 each (Luzon, Visayas, Mindanao, Metro Manila), and HEIs: 2 each (Luzon, Visayas, Mindanao, Metro Manila). However, the targets were pre-identified random referrals, which may or may not be engaged in R&D or any such matters related to the study, and which will no longer be part of the formal survey. The questionnaires were sent out through emails and were self-administered.

The prototype questionnaires underwent further polishing, i.e. adjustments and improvements based on solicited reactions and comments from the respondents and the RT's evaluation. The evaluated and fine-tuned prototypes questionnaires were to be used for the formal survey.

Networking and Collaboration in Action

Nov 12, 2008	*Seminar-Workshop on IP Policy and Technology Commercialization (Arellano University School of Law – Manila)*
Nov 21, 2008	*Seminar-Workshop on IP Policy and Technology Commercialization (University of San Carlos – Cebu City)*

[10] Science Education Institute, Department of Science and Technology

The RT envisioned conducting four SWs in two phases. Phase I would be the pre-survey SW to ensure sufficient understanding of the concept of patent pools, a prelude and a perceived prerequisite to an accurate and reliable response to the survey. Phase II would be the FGD to discuss and validate the result of the survey to the participants. With four SWs in mind, the RT believed this should be held in Metro Manila and outside of Metro Manila.

Target date for Phase I was in the last quarter 2008 and no later than November for Metro Manila and Cebu City.

Fortunately for the Project, the IP Philippines and CHED both of which the RT was in close contact with were going on a campaign drive in a one and a half day SW on IP Policy Development around key cities to encourage and teach universities to formulate their own university IP policy. Opportunity for collaboration available, the RT hastily encouraged and proposed that IP Philippines expand the scope of the SW whose participants are common with the Project's by segueing into technology commercialization, likewise a hot topic among universities, in the afternoon of the second day. The Project would invite a new set of participants, the R&D sector and sponsor them for the second half day on the technology commercialization. As patent pools come under the ambit of technology commercialization, the RT can hold a joint collaboration with the IP Philippines and the Project could be justified. At the SW, the members of the RT would discuss the concept of patent pools and explain to the participants the goals of the Project and the survey questionnaire. These seminars were generally means to analyze the possible respondents' level of awareness, recognition and application of patent pooling, likewise provide further understanding of how a patent pool may affect their fields.

The exchange deal that was finally agreed was that the members of the RT[11] were to act as resource persons *gratis* at the IP Policy Development session while IP Philippines would add a half day for technology commercialization. Thus, the activity as expanded was entitled "SW on IP Policy Development and Technology Commercialization". With such mutually beneficial collaboration, the RT was able to enlarge its audience through the back-to-back arrangement at lesser cost to the Project. The SW was held in the Arellano University School of Law on November 12, 2008.

This arrangement was replicated on November 20-21 but this time at the University of San Carlos in Cebu City.

[11] Josephine R. Santiago and Ma. Gladys C. Vilchez

Thereafter, the two sets of questionnaire underwent further fine-tuning after assessment of the results and drawing out the analysis of the participants' grasp of the subject at hand.

Feb 9, 2009	*Forum and Workshop on Patent Pool (University of the Philippines – Diliman)*

In further pursuance of the goal of providing understanding of patent pools, of ensuring submission of responses and of speeding up the retrieval of the responses, on 9 February 2009, the Project, together with the Office of the Vice-Chancellor for Research and Development of UP, jointly organized a forum for the deans, professors, scientists, and researchers of different science and engineering colleges of UP – Diliman. This event was preceded by a series of meetings with officials and staff of the Office of the Vice-Chancellor for R&D of UP. The event was a success and fruitful that Vice-Chancellor Luis Sison, Ph.D. endorsed in writing the holding of a similar event in other campuses. Unfortunately, the tightness of the time prevented the timely pursuit of subsequent fora in other campuses by the RT.

Furthermore, the intended Phase II planned for 2009 was no longer pushed through as RT considered the retrieval of responses priority at that point.

Formal Survey

Dec. 10, 2008	*Requested DOST formal endorsement of the survey, and of other activities of the project that include conferences, workshops, focused group discussions (ideally set for the first quarter of 2009)*
Dec. 11, 2008	*DOST gave its formal endorsement of the Patent Pool Survey*
Jan. 6, 2009	*Survey questionnaires were sent out to respondents*
Jan. 23, 2009	*Deadline for submission of the survey*
Feb. 15, 2009	*First Extension of deadline*
Mar. 15, 2009	*Second Extension of deadline (100 responses were returned accomplished)*
May 2009	*Survey results and analysis were released by Dr. Ogena*

To buttress the research's credibility and command urgency, the Project requested DOST Undersecretary for R&D, Graciano P. Yumul Jr. D. SC for a formal endorsement for the survey. Usec. Yumul gave a speedy response granting the endorsement request. Having completed the needed list of

educational and research institutions, companies, and some select inventors/inventors' groups all over the country, the RT released the formal survey questions for distribution and dissemination to a select 294 respondents. Given that it was a national survey and its respondents were scattered across the country, it was deemed more cost-effective for the questionnaires to be sent through courier or mail.

To assist the RT in the administrative work pertaining to the dissemination of the questionnaire and retrieval of the survey responses, the Project commissioned the communications group of Mr. Rommel Magallanes to distribute the survey questions and to arrange for courier services. It was specifically tasked to ensure the receipt of addressees of the survey by calling and checking on them, reminding them of the deadline, and following up the responses of individual recipients on weekly basis by making long distance calls. Telephone and mobile bill charges were part of the entire service fee package for the group. Incidentally, this same group earlier assisted in the Project in the later part of 2008 making follow up calls also to government agencies concerned regarding our request for the list of prospective participants and respondents in the survey.

Despite persistent effort by the communications group, the Project had to extend the deadline for submission twice in view of delay in submission. On the final deadline on 15 March 2009, 100 responses were returned accomplished which translate into a 32% completion rate. Collected questionnaires were then sent to the Project consultant, Dr. Ogena for her statistical analysis. The remaining questionnaires were no longer pursued in consideration of the time constraint.

The Project was supposed to terminate on 27 April 2009 as stated in the Memorandum of Grant. However, since a substantial part of the Report was largely dependent on the survey analysis, the RT recommended that ALF request for extension of time for the end of the Project until July 30, 2009. IDRC granted ALF's request. In the meantime, on May 2009, Dr. Ogena released the report entitled "Baseline Survey on R&D and Patent Pooling Among Selected Research Institutions in the Philippines" expressing in detail the analysis of the survey results.

Minds at Work

Feb 7, 2009	*Submitted to IDRC a Preliminary Research*
Feb 25, 2009	*Ordered books from amazon.com for further and in-depth research. Subsequent orders were made for other titles.*

May 2009	*Dr. Ogena's analysis was released to the RT*
June 5-8, 2009	*Write-shop (Baguio City)*
July 30, 2009	*New completion date of Project*
September 3, 2009	*Submitted to IDRC Second Interim Report*
October 31, 2009	*Final completion date of Project*

After having obtained Dr. Ogena's analysis of the baseline survey, the RT engrossed themselves in research and cross referencing of data with other studies. First extension was granted to give time for analysis of the results, incorporation of the works and translating it to written outputs. The due date was moved to July 30, 2009. The RT went to Baguio City, some six hours by car outside Metro Manila, on a four-day write-shop in June 2008 to brainstorm and begin the formal drafting of the report. The RT had to request for a new completion date, October 31, to enable the RT to complete the work and to have the output reviewed by a local authority[12]. In addition, RT and ALF were planning to hold a culminating activity in October 12 on the occasion of the visit of Dr. Ellie Osir to the Philippines. The idea was holding a forum in line with dissemination of the result of the study. Unfortunately, in view of the large devastation brought by the catastrophic series of super typhoons and destructive floods in Metro Manila in October placing the country at a halt, the visit was understandably and rightly aborted.

Project Outputs

Seminar-Workshops

- *Seminar-Workshop on IP Policy Development and Technology Commercialization*
  Joint activity with the IP Philippines, CHED, and the ALF held at the Arellano University School of Law - Bar Review Room, Manila, Nov 11-12, 2008
- *Seminar-Workshop on IP Policy Development and Technology Commercialization*

[12] Dr. Ma. Lourdes A. Sereno, Executive Director of the Asian Institute of Management Policy Center

Joint activity with the IP Philippines, CHED, San Carlos University, and the ALF held at the San Carlos University, Cebu City, Nov. 20-21, 2008

- *Forum and Workshop on Patent Pooling*
  Joint activity with the IP Philippines and the ALF held at the National Engineering Center, UP Diliman, Quezon City, Feb 09, 2009, approx. 50 participants

Research

- Research Paper entitled "Exploring Patent Pooling as a Tool for National Development"
- *Baseline Survey* on R&D and Patent Pooling Among Selected Research Institutions in the Philippines (May 2009)
- Raw and processed data obtained from Main and Pilot surveys
- Survey questionnaire for the Formal survey
- Survey questionnaire for the Pilot survey
- List of participants and respondents in the surveys
- This Technical Report
- The RT and ALF likewise consider publishing the substantive or derivative output drawn out of the project.

Beyond the output, what occurs from the point of initiation to the actual conception of the project is as crucial as the yield itself. Innovative ends call for of innovative means.

Roadblocks are faced by most projects due to bureaucratic red-tapes and other technical setbacks brought about by institutions (e.g. government) and/or other circumstances (e.g. congressional budget hearings). To go around such roadblocks, among others, it was thus vital to capitalize on public relations with pre-existing and new networks, and utilize such as necessary. Networking was the significant key in the relative ease and speed with which the RT was able to acquire critical endorsements and seek support as the project leader used to be a ranking official at the DOST-TAPI and IPO, (although there were still some tolerable delays).

Under certain circumstances, doing collaborations facilitate efficiency and practicality. Most of the outputs that were produced by the RT were done as tie-ups with established institutions, i.e. critical list of relevant participants from DOST, SWs with IPO & CHED, fora at UP and University of San Carlos. Had it not been for such human resource maximization and resulting in fund stretching, the RT would have had to independently organize the activities themselves yet would not achieve the same end result. The RT who would have incurred

additional expenses and using up valuable time would have solely researched database of possible respondents. The same goes for the SW as independently organizing seminars and forums are tedious tasks. Aside from the coming up with a list of target participants, assurance of a large audience turn-out is bleak.

Aware that (1) surveys are usually low in priority for the respondents, (2) surveys are time consuming, and (3) constant surveys for various purposes from several groups could bring survey-fatigue to common respondents, the RT must design an incentive scheme for the respondents specially so that the subject matter is highly technical, complex, and least interesting for most. For a more expedient response, the researchers employed innovative means of ensuring receptiveness. The 50 participants for the pilot survey were informed of an token incentive for participating in the survey by giving out each respondent a flash disk upon their completion and return of the questionnaires. Needless to say, the scheme worked as 100% was sent back accomplished. However, for the actual survey, Dr. Ogena, advised against promise of tokens as incentive for timely participating and responding in the survey. From the consultant's professional assessment, the method might cause the respondents to thoughtlessly fill out the form and simply brush through the questions without seriously understanding the questions just so they could finish. Apprehensive about the possible distortion of the outcome, the RT considered the advice and refrained from the incentive scheme. As may be noted in the earlier paragraphs, at the end of two extensions for the deadline for submission of the responses, the Project harvested 100 responses out of 294 respondents or a rate of 32%.

The duration of project was largely consumed by the lengthy wait for the respondents' reply to the actual survey. Prior to fielding out the survey forms, the RT had considered several options to expedite the administration and collection of the questionnaires. In light of an awareness of the people's apathy and fatigue towards surveys, the researchers further explored several options. Aside from the use of DOST's endorsement, several procedural options were laid down. Going across the country to facilitate seminars on regional focal points was initially considered. However, not only would it be expensive (e.g. transportation costs, accommodation, etc.) and laborious, there also is a scarce assurance that the targeted participants would be willing to exhaust time and personal resources to travel from the peripheral areas of the region to the central regional points. Thus, one option that was opened was to "appoint" school coordinators who would be responsible for following up on the respondents in their school and centralizing responses to them. The alternative was making the DOST Regional Directors the coordinators themselves. Not only were they in physical proximity with the respondents, given that they were the ones who provided the database, they were more or less expected to have personal associations with the said targets. Either the School coordinators or the Regional

Directors were to be invited to Metro Manila to undergo training, which shall be focusing on the proper administration of the questionnaires and accurate handling of technical and substantive questions about the survey and about patent pool *per se.*

After much deliberation, both options were junked because of tremendous costs involved, possible complications in their primary work and the presence of layers. After all, the RT would still be in a better position to address promptly issues and questions themselves regarding the survey than the said groups considered. The Project decided to hire the services of a private communications group instead who was tasked to persistently contact these institutions, answered queries, if any and carried out questionnaire retrieval.

Project Outputs

Capacity

- The extensive preparations prior to the formal survey gave the RT valuable insights on how to approach the conduct of a serious survey on a relatively unfamiliar topic. It was extremely useful to have the pilot survey, which gave us basis for improving the design of the questionnaires. In addition, the holding of training activities like the interactive SWs was an excellent way to introduce and explain the concept and coverage of the survey. The process gave the RT the confidence that the survey results are credible.

- The Project through survey consultant, Dr. Ogena, gave valuable insights for the proper methodology for drafting the questionnaire, the source of data from where to choose the sampling frames, the sample frame itself, and systematic analysis of data obtained from the questionnaire. That Dr. Ogena was part of the Project gave credence to the survey analysis and confidence to the RT that the evaluation of the results has been handled scientifically.

- In a national perspective, through the research, the concept of patent pool and its nuances more than just addressing patent thickets, is actually a new alternative to IP utilization. Despite being an old transactional concept in an international context, it has been newly introduced only to most of the stakeholders. SMEs, RDIs, and HEIs, including the RT, have substantially gained and enhanced knowledge on patent pools. Considering that the Republic Act No. 10055 otherwise known as Technology Commercialization Act has been recently passed, a patent

pool adds to the choices for technology commercialization that may be pursued in the country.

- The Project will be remembered as the one that highlighted patent pools to the relevant sector. Most importantly, among what has been learned is the in-depth and expert knowledge about patent pools. As specialists in IPRs, the RT, through the research, was able to gain understanding of, and explore patent pools and its other facets.

- The thirst for new knowledge is universal and infectious. Participants to SWs and the forum were enthusiastic and looking forward to spreading more understanding of the patent pools and exploring it under technology commercialization of the academic and research institutions, singly or collaboratively.

- The holding of the interactive SW and forum in two key cities of the country as a result of critical networking scheme pursued by the RT through the Project Leader has scored a significant achievement for the Project. This signifies the capacity and the capability of the RT to forge ties with government agencies and schools and other entities whenever necessary thereby creating an excellent impact in the minds of the participants of the importance of the Project.

- The 4-day live-in write shop has been an excellent opportunity to work and focus on the project. There should at least be two of this throughout the project period.

- Finding common time for several experts for collaborative meetings and discussions could be challenging at times. As their primary professional employment or involvement most often took priority attention, the RT sometimes had to inevitably reset agreed dates. If there is going to be a similar project in the future, an internal compensation arrangement based on output or milestones rather than doing monthly spreads appears to be the best approach under the circumstances. Similarly as far as possible, the project coordinator/research staff may also be treated alike.

- The ALF initially carried the RT solely for the purpose of the project at hand. Taking inspiration from the Project impact in terms of genuine assistance to the relevant sector and opportunity for bolstering existing advocacy relating to access to knowledge[13] , the ALF's Board has

[13] The Arellano University School of Law ran and managed by the Arellano Law Foundation is the host of the Creative Commons group in the country.

approved in principle the creation of the Center on Innovation and International Studies. Through the Center headed by a Program Director, developmental research, training, education within the legal context, at the very least, will be undertaken. The RT envisions with excitement the ripple effect that the Project has pioneered.

Policy

It would be difficult if not premature to make a lengthy discussion on this since the research paper is rather exploratory in nature only, that is, it seeks to find if patent pools in the Philippines are likely to promote indigenous innovation and national development.

For now, one thing is certain though. The RP will enrich technical- or scientific-related literatures and may be used as a guide by policymakers in developing national programs on innovation and intellectual property creation, management and technology commercialization. The RP contains accurate quantitative data obtained directly from the most important stakeholders in the academic and scientific communities. As an important component of this pioneering project, the results of the survey would add up to the existing information on intellectual property and innovation. Additionally, the results of the survey and the recommendations may be used to identify the problems of the scientific and academic community in terms of access of existing to patent databases, use of patent literature for research, development of indigenous technologies, need for collaboration among researchers, among others.

A project's impact to society can be likened to planting a seed. The forums, workshop-seminars and other information dissemination methods conducted can only transpire substantive and evident outcomes after a protracted period. In the long run, the RT expects a reverberation of the knowledge that was taken up in this Project. From the forum and seminar participants, it is expected to trickle down to the grassroots level and eventually produce success stories.

Practice

Again, it would appear premature to make a lengthy discussion on this because the recommendations and proposals have not been presented and adopted by the concerned institutions (DOST-TAPI, IPO, CHED, etc).

It may be worth stating though that despite low retrieval rate of the questionnaires, respondents had a positive outlook towards subject of the survey *per se,* that is, patent pooling, not necessarily patent pools, is a tool for national development that is worth exploring. SMEs, RDIs and HEIs are now, more and more, looking towards exploring the utilization of technology transfer as a means for greater commercial benefits. With their awareness of its market advantage, these institutions are now more inclined to work and collaborate with other SMEs, RDIs and HEIs.

Conclusion and Recommendations

A country's growth and development depends to a great extent on its capacity to innovate. However, the Philippines lags behind and is at a competitive disadvantage compared to other ASEAN countries in terms of innovation. This can be attributed to a number of factors, including:

(1) Low levels of R&D investment. Poor S&T investment has in recent years, penalized human resource development programs, hindering an upgrade in manpower skills. The country in effect is experiencing a decrease in R&D human resources as it had only 85 scientists per million inhabitants in 2002, representing a sharp decrease of 45% from 1996.

(2) Limited private sector R&D participation. Private enterprise, comprising of 99.6% SME are involved in enterprises that hardly require innovation. The copycat strategy is prevalent in terms of service, product and process development. SME are likewise constrained from innovation due to fiscal constraints such as limited funding and access to low cost R&D facilities.

(3) General lack of IP awareness among IP stakeholders. Many do not even have IP policies. R&D institutions fail maximize the benefits of the IP system and to use publicly available patent information to give direction to their research activities. This also hampers R&D collaboration and technology transfer.

(4) Weak linkages among HEIs), RDIs and industry. This has resulted in minimal enterprise investment in innovation activities of HEI and RDI, low level R&D collaboration and minimal technology transfer from university to industry.

(5) Lack of coordination and integration of R&D and technology transfer activities among the many stakeholders including lead government agencies. Resources are not used efficiently and R&D activities are perceived as not responsive to market demands and the needs of the community.

(6) On information sharing, existing laws are not clear on the extent of technology sharing in cases where experts from public R&D institutes are tapped as industry consultants. Policies are also not clear on the limits of information that can be shared for publicly generated technologies.

DOST outlined various strategies including: (i) S&T human resource development which aims to build future S&T capabilities through focused programs in basic and higher education, align vocational, technical and skills

and development programs to the requirements of global competitiveness of Philippine industries, and promote partnerships with the private sector; (ii) provision of support to industries particularly SME by, among others, harnessing the capabilities of the academe in meeting the technology requirements of industries, particularly in their weak areas; (iii) accelerating technology transfer and utilization through the promotion of networking among various stakeholders and the mobilization of the financial sector in support of technology transfer and commercialization; and (iv) strengthening of government-industry-academe-civil society and international linkages.

The way to increase national R&D spending lies in engaging the private sector to increase their stake in technology innovation. Private sector involvement in R&D has been the key element in the development process of high growth and prosperous Asian economies such as South Korea, Japan, Taiwan, Hong Kong and Malaysia, business is highly involved in industry R&D activities.

There is a need to devise and implement viable and aggressive strategies for increased IP awareness and adoption among R&D institutions. This should include the establishment of strong linkages with IP experts and professionals. R&D institutions must be made aware and educated about the use of patent information as source of innovative ideas and to avoid research duplication and waste of resources.

The increased awareness of IPR and adoption of relevant IP policies will facilitate and promote innovation as gray areas in the identification and ownership of IP, the patentability of technology subject of R&D, the protection and enforceability of IPR and the sharing of benefits are clarified.

The results of the survey show that R&D in the Philippines is generally responsive to industry needs and can enhance the long-term economic development of the country. The perception that research programs of the academe and government agencies do not have relevance to the country's development may just be due to the ignorance of the private sector and the general public concerning these activities. The challenge then is for the country to have closer linkages among stakeholders, more transparency and more public information campaigns on S&T programs. Closer linkages will bring the technology created in the university to industry where the technology can have practical application. Users of the technology are in turn sources of innovation ideas for technology improvement and development.

Innovations in the Philippines are generated by and may be found in both the public and private sectors. Collective action by industry, particularly SME

which comprise 99.6% of local registered industries, RDI and HEI has the potential to be effective in addressing the low level of innovation in the country. For synergistic and economic reasons and to spur and facilitate innovation, there is a need to create multi-stakeholder systems that provide institutionalized mechanisms for information sharing and research coordination and/or collaboration activities.

The government has to create the necessary infrastructure and provide strong administrative and other support to enable firm rooting of alliances among the willing partners. Beyond focusing on industry clusters, however, innovation promotion should encompass policy harmonization and prioritization and include the provision of governance stability and consistency in the delivery of support services and facilities required for innovation.

Further, to hasten the growth of innovation, the government must step up its efforts to bring technology-based products and processes, specifically those generated from publicly funded research, from the laboratory to the market, by actively implementing the technology transfer act that provides the framework and support for the ownership, management, use, and commercialization of intellectual property generated from government funded R&D.

It is not enough, however, to encourage innovation activity in the country. Innovation must be responsive and contributory to national development goals and must be directed at resolving pressing national problems. Any innovation strategy to be pursued must be within the context of the national development plan. R&D strategy and activity must be coordinated, focused and directed towards the achievement of the clearly identified national development goals outlined in the MTPDP 2004-2010 and NSTP 2002-2020.

To achieve the aforementioned goals and to resolve the problems confronting the S&T sector in its efforts to spur innovation and promote national development, existing R&D infrastructures, such as industry clusters, TBI and S&T parks must maximized and replicated, and new ones such as patent pools may be adopted and utilized to compliment existing systems.